Candidate Plant Species for Phytoremediation and Selection Rationale

February 6th, 2014 STIG meeting

2012 Jepson Manual Name[a]	Common Name	Origin	Habit	Duration[b]	Abundance[c]	Annual Growth Rate	Dioxin	PCB	PAH	TPH	Metals	Mercury
Acmispon americanus	Spanish Lotus	Native	Forb	Annual	Low	Medium		A	A	A		
Acmispon glaber	Common Deerweed	Native	Shrub	Perennial	Medium	Medium		A	A	A		
Artemisia californica	California Sagebrush	Native	Shrub	Perennial	Medium	Low					A	
Asclepias fascicularis	Narrowleaf Milkweed	Native	Forb	Perennial	Low	Medium						
Avena barbata	Slender Wild Oat	Alien	Grass	Annual	High	High					A	
Avena fatua	Wild Oat	Alien	Grass	Annual	High	High					A	
Baccharis pilularis	Coyotebrush	Native	Shrub	Perennial	Medium	Medium					A	
Baccharis salicifolia	Mule-Fat	Native	Shrub	Perennial	High	Medium					A	
Brickellia californica	California Bricklebush	Native	Shrub	Perennial	Low	Medium					A	
Bromus diandrus	Ripgut Brome	Alien	Grass	Annual	High	High			A		A	
Bromus hordeaceus	Soft Chess	Alien	Grass	Annual	High	High			A		A	
Bromus madritensis	Red Brome	Alien	Grass	Annual	High	High			A		A	
Corethrogyne filaginifolia	Common Sandaster	Native	Forb	Perennial	Medium	Medium					A	
Deinandra minthornii	Santa Susanna Tarweed	Native	Shrub	Perennial	Medium	Low					A	
Ericameria palmeri	Palmer Goldenbush	Native	Shrub	Perennial	High	Medium					A	
Erigeron canadensis	Canadian Horseweed	Native	Forb	Annual	Medium	High					A	
Eriodictyon crassifolium	Thickleaf Yerba Santa	Native	Shrub	Perennial	High	Medium						
Eriogonum fasciculatum	California Buckwheat	Native	Shrub	Perennial	High	Medium						
Heterotheca grandiflora	Telegraph weed	Native	Forb	Annual	Medium	High					A	
Hirschfeldia incana	Summer Mustard	Alien	Forb	Perennial	High	High					A	A
Malosma laurina	Laurel Sumac	Native	Shrub	Perennial	Medium	Medium						
Prunus ilicifolia	Hollyleaf Cherry	Native	Tree/ Shrub	Perennial	Medium	Medium						

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Pseudognaphalium californicum	California Cudweed	Native	Forb	Perennial	Medium	High					A	
Rhamnus ilicifolia	Hollyleaf Redberry	Native	Shrub	Perennial	Low	Medium						
Rhus ovata	Sugar Bush	Native	Shrub	Perennial	Low	Medium						
Ribes malvaceum	Chaparral Current	Native	Shrub	Perennial	Low	Medium						
Salix lasiolepis	Arroyo Willow	Native	Tree/ Shrub	Perennial	Low	Medium	A	A				A
Salvia leucophylla	Purple Sage	Native	Shrub	Perennial	Medium	Medium						
Salvia mellifera	Black Sage	Native	Shrub	Perennial	Medium	Medium						
Sambucus nigra	Blue Elderberry	Native	Tree/ Shrub	Perennial	Low	Medium						
Stipa cernua	Nodding Needlegrass	Native	Grass	Perennial	Medium	Low						
Stipa pulchra	Purple Needlegrass	Native	Grass	Perennial	Low	Low						

[a] :Scientific name from the 2012 Jepson Manual: Vascular Plants of California (Baldwin, 2012)

[b] :Duration indicates the life expectancy of the plant

[c] :The plant abundance in Area IV as observed during May 30th, 2013 site visit

A : The 'A' indicates that the plant is analogous to a species shown to uptake this chemical as identified by the 2012 Sandia Study

Acronyms

PAH polyaromatic hydrocarbon
PCB polychlorinated biphenyl
TPH total petroleum hydrocarbons

References

Baldwin BG, Goldman DH, Keil DJ, Patterson R, Rosatti TJ, and Wilken DH (eds.). 2012. The Jepson Manual: Vascular Plants of California, ed. 2. Berkeley: University of California Press.

Sandia. 2012. ""Investigations Recommended for Resolving Uncertainty About Soil Remediation at ETEC." Soil Treatability Study Update. September 18.